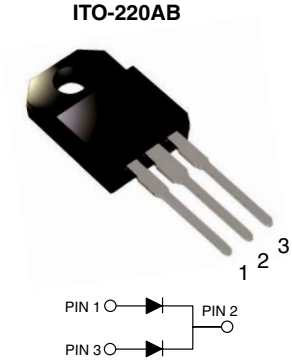
Dual Common-Cathode High-Voltage Schottky Rectifier

ITO-220AB



FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, free-wheeling diodes, dc-to-dc converters or polarity protection application.

MAJOR RATINGS AND CHARACTERISTICS	
$I_{F(AV)}$	5.0 A x 2
V_{RRM}	90 V, 100 V
I_{FSM}	120 A
V_F	0.75 V
T_j max.	150 °C

MECHANICAL DATA

Case: ITO-220AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T_C = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**MBRF1090CT**	**MBRF10100CT**	**UNIT**
Maximum repetitive peak reverse voltage	V_{RRM}	90	100	V
Working peak reverse voltage	V_{RWM}	90	100	V
Maximum DC blocking voltage	V_{DC}	90	100	V
Maximum average forward rectified current at T_C = 105 °C — Total device per diode	$I_{F(AV)}$	10 5.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	120		A
Peak repetitive reverse current per diode at t_p = 2 µs, 1 kHz	I_{RRM}	0.5		A
Voltage rate of change (rated V_R)	dv/dt	10000		V/µs
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 150		°C
Isolation voltage From terminal to heatsink with t = 1 minute	V_{AC}	1500		V

ELECTRICAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**MBRF1090CT**	**MBRF10100CT**	**UNIT**
Maximum instantaneous forward voltage per diode (1)	at I_F = 5.0 A, T_C = 125 °C at I_F = 5.0 A, T_C = 25 °C	VF	0.75 0.85		V
Maximum reverse current per diode at working peak reverse voltage (1)	T_J = 25 °C T_J = 100 °C	IR	100 6.0		µA mA

Note:

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**MBRF1090CT**	**MBRF10100CT**	**UNIT**
Typical thermal resistance per diode	$R_{\theta JC}$	6.8		°C/W

ORDERING INFORMATION					
PACKAGE	**PREFERRED P/N**	**UNIT WEIGHT (g)**	**PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
ITO-220AB	MBRF10100CT-E3/45	1.99	45	50/Tube	Tube

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise specified)

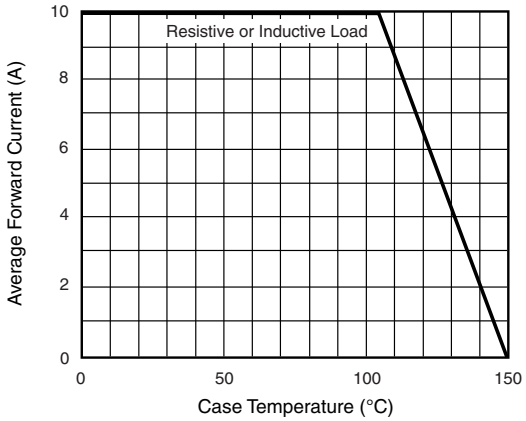


Figure 1. Forward Current Derating Curve

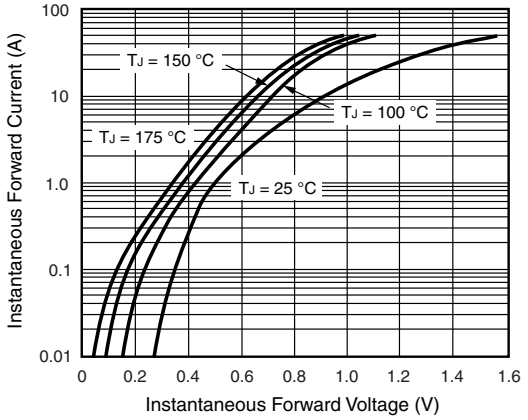


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

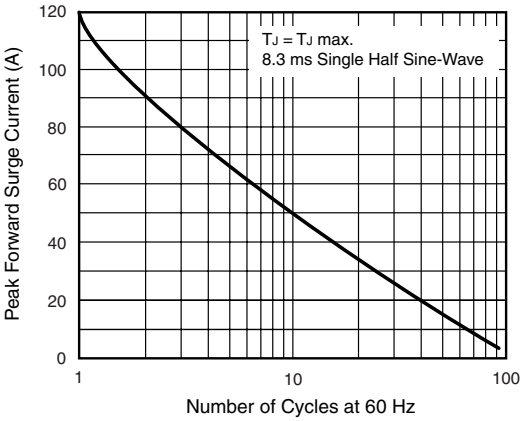


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

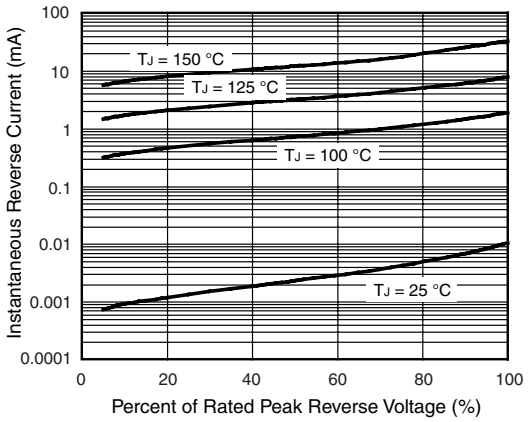


Figure 4. Typical Reverse Characteristics Per Diode

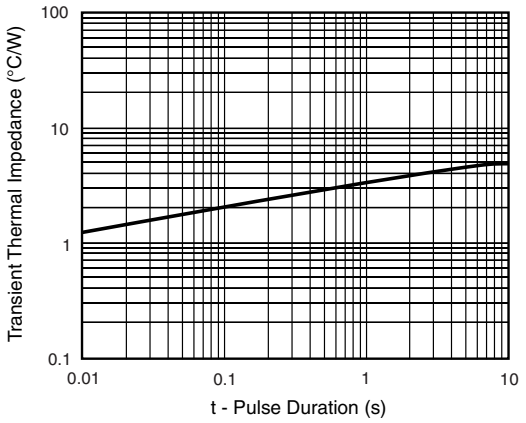


Figure 5. Typical Transient Thermal Impedance Per Diode

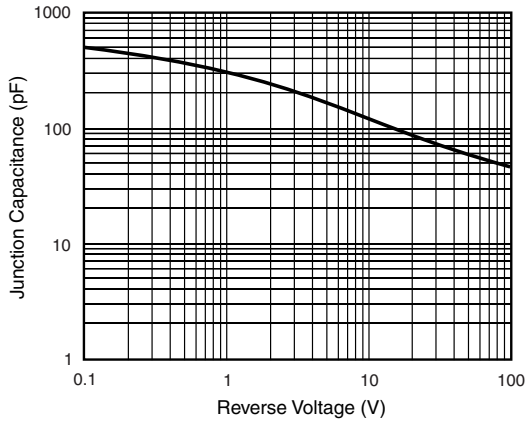
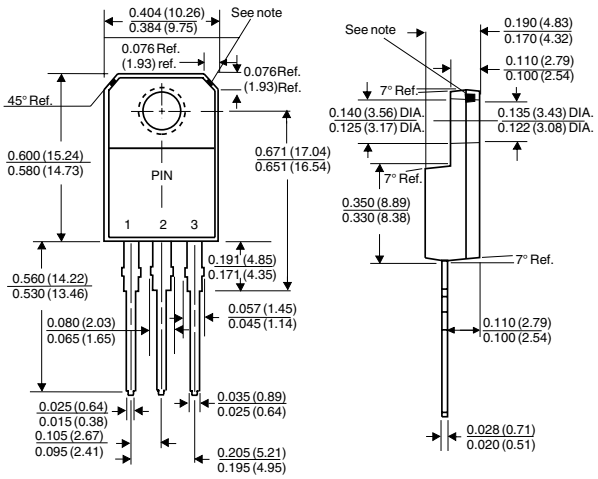


Figure 6. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

ITO-220AB



Note: Copper exposure is allowable for 0.005 (0.13) Max. from the body

Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.